

MEMORANDUM

TO: Docket No. EPA-HQ-OAR-2012-0918
Air Quality Designations for the 2012 PM_{2.5} Standards

FROM: Beth W. Palma and Martha H. Keating
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SUBJECT: Deferred Area Air Quality Designations for the 2012 PM_{2.5} National Ambient Air Quality Standards (SAN 5706)

This memorandum provides the rationale for the U.S. Environmental Protection Agency's intent to use the additional time available to it under section 107(d)(1)(B) of the Clean Air Act (CAA) to obtain additional information and further evaluate air quality monitoring data before promulgating initial area designations for the 2012 primary annual fine particle National Ambient Air Quality Standard (2012 annual PM_{2.5} NAAQS)¹ in certain areas that include counties in Georgia, Alabama, and South Carolina.

In accordance with section 107(d) of the CAA, the EPA must promulgate designations for all areas of the country. In particular, the EPA must identify those areas that are violating a NAAQS or contributing to a violation of the NAAQS in a nearby area. The EPA designates these areas as "nonattainment" areas. Additionally, through the designation process, the EPA identifies areas that are meeting the NAAQS and those areas without sufficient data for the Agency to make a determination. The EPA uses a designation category of "unclassifiable/attainment" for areas where air quality monitoring data indicate attainment of the NAAQS and for areas that do not have monitors but for which the EPA has reason to believe are likely to be in attainment and are not contributing to nearby violations. The EPA reserves the category of "unclassifiable" for areas where the EPA cannot determine based on available information whether the area is meeting or not meeting the NAAQS or where the EPA has not determined that the area contributes to a nearby violation.

As described in more detail in the memorandum, *Data Quality Issues in Georgia Affecting Air Quality Designations for the 2012 PM_{2.5} National Ambient Air Quality Standards*, Georgia's monitoring program has experienced data completeness issues for several areas across the State.² Given these data completeness issues, the EPA cannot calculate a valid design value for the

¹ On December 14, 2012, the EPA promulgated a revised primary annual PM_{2.5} NAAQS (78 FR 3086, January 15, 2013). In that action, the EPA revised the primary annual PM_{2.5} standard, strengthening it from 15.0 micrograms per cubic meter (µg/m³) to 12.0 µg/m³.

² Memorandum from Liz P. Naess, Group Leader, Air Quality Analysis Group, US EPA Office of Air Quality Planning and Standards, to EPA Docket EPA-HQ-OAR-2012-0918, Air Quality Designations for the 2012 PM_{2.5} Standards, titled "Data Quality Issues in Georgia Affecting Air Quality Designations for the 2012 PM_{2.5} National Ambient Air Quality Standard."

2011-2013 time period (the data that the EPA intends to use for designation decisions). Without a valid design value, the EPA cannot determine whether these areas are meeting or are not meeting the NAAQS. However, the EPA believes that an additional year of monitoring data (i.e., allowing for a designation based upon 2012 – 2014 data) will likely result in three years of complete and valid data needed for a designation for the areas identified below. Accordingly, the EPA intends to defer a designation and use the additional time available to it as provided under section 107(d)(1)(B) of the CAA to assess these data and promulgate an initial area designation for the identified areas.

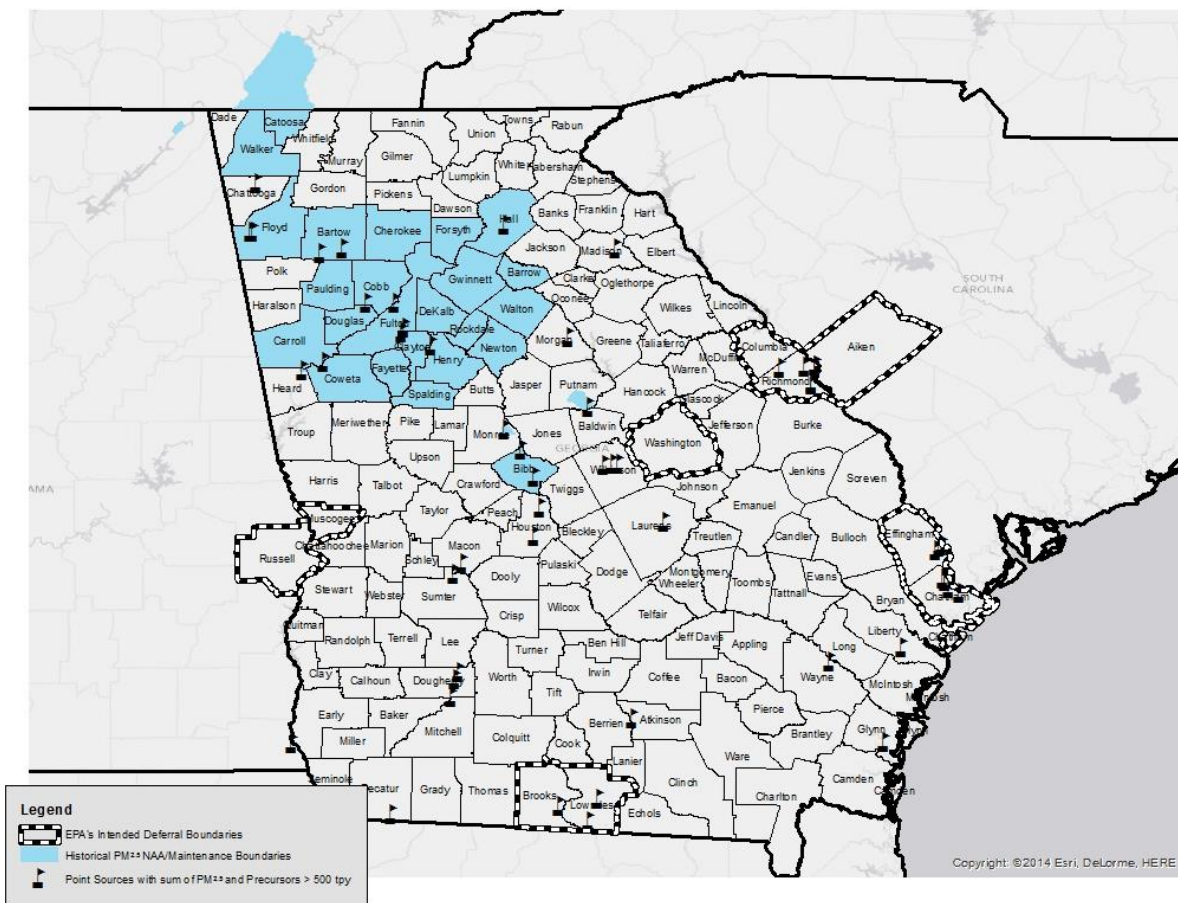
Table 1 identifies the areas for which the EPA intends to defer designations. Figure 1 displays a map of the areas. These areas include the listed counties in Georgia with incomplete monitoring data that are within these areas, and counties nearby to these Georgia counties that the EPA believes should be evaluated for potential contribution to the counties with affected data. The EPA intends to defer the designations for all of the counties listed in Table 1 for the 2012 annual PM_{2.5} NAAQS to allow the EPA to collect and assess additional information, including 2014 air quality monitoring data, before providing the EPA's intended initial area designations for these areas.

Table 1. Georgia Counties that the EPA Intends to Defer

Augusta Area	Columbus Area	Savannah Area	Valdosta Area	Washington County Area
Richmond County, GA	Muscogee County, GA	Chatham County, GA	Lowndes County, GA	Washington County, GA
Columbia County, GA	Russell County, AL	Effingham County, GA	Brooks County, GA	No potentially contributing counties
Aiken County, SC				

Note: The EPA intends to defer initial area designations for all counties in Table 1. The Georgia counties with the incomplete monitoring data are identified in **bold**. Nearby counties without PM_{2.5} monitoring sites but that are potentially contributing to the county with affected data are listed below the county to which they could potentially contribute.

Figure 1. Map of Georgia Counties that the EPA Intends to Defer



The EPA will work with Georgia, Alabama, and South Carolina to finalize the designations for these counties as soon as complete certified data are available, which the EPA anticipates will allow for promulgation of these designations by December 2015 in accordance with section 107(d). When complete 2014 air quality monitoring data are available and have been certified, the EPA invites the affected states to submit revised designation and boundary recommendations, as appropriate. If at that time the EPA believes that it is necessary to modify a state's recommendation and to promulgate a designation different from the state's recommendation, then the EPA will notify the state at least 120 days prior to promulgating the final designation and the EPA will provide the state an opportunity to comment on the potential modification. Each state will then have an opportunity to respond to the EPA's proposed designations and boundaries. Pursuant to section 107(d), the EPA cannot promulgate the designation for these areas less than 120 days from the date of the EPA modification letter. The EPA intends to finalize designations for all other areas of the country in December of 2014. The EPA will promulgate the designations for these deferred areas at a later date in a separate final rule.

The remainder of this memorandum provides additional detail to support the deferral of the designation for certain counties that are potentially contributing counties identified in Table 1 as well as additional data to support the EPA's determination of "unclassifiable/attainment" for all other nearby counties which the EPA has reason to believe are likely to be in attainment and are not likely to be contributing to nearby violations. In general, each of the counties that the EPA intends to designate as unclassifiable/attainment (rather than deferring the designation), has sources with emissions that are low relative to the deferred counties, has low vehicle miles traveled (VMT) compared to the deferred counties, and, in many cases, has no major point sources. In addition, many of these areas with affected data have never violated a PM standard and thus they are less likely to have violations or to be contributing to violations in other areas.

In the future, certified quality-assured data obtained by Georgia or other relevant states will provide an adequate basis for determining the air quality status of these areas. If these data indicate that any of these deferred areas are violating the standard, the EPA will complete designations for the deferred areas and may initiate action to redesignate any areas contributing to any monitored violations. This will include conducting a complete five factor analysis. As a result of any such future analyses, the boundaries of any future nonattainment areas may differ from the boundaries of the areas for which the EPA currently intends to defer designating.

Approach

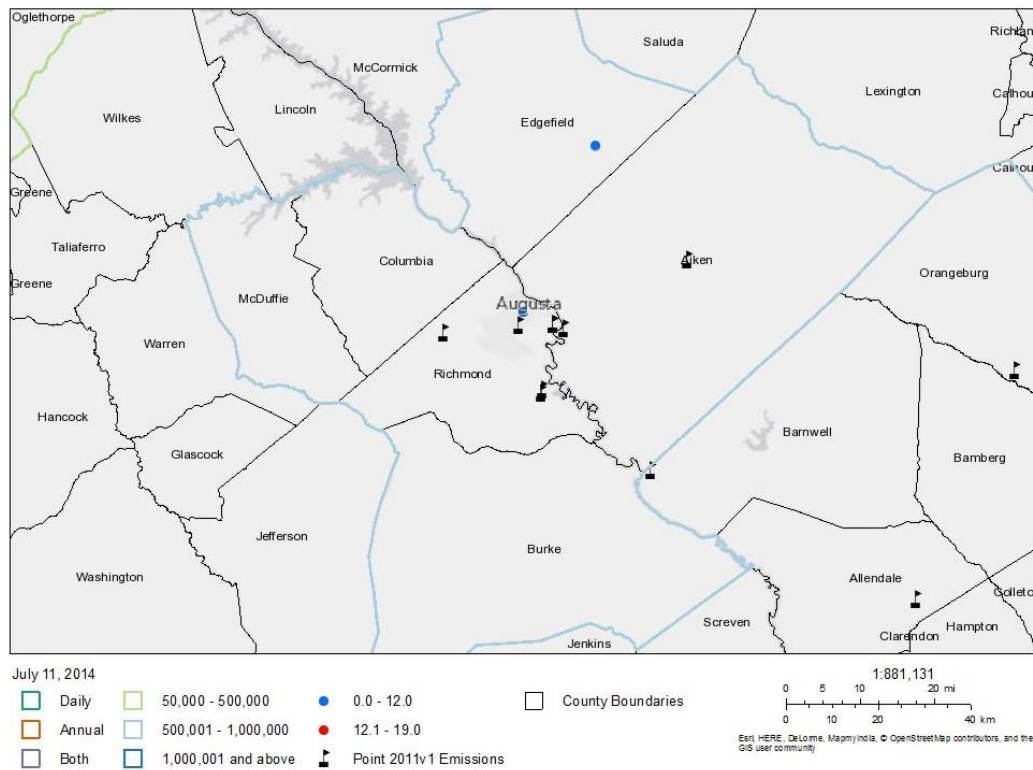
In determining the appropriate counties for which the EPA intends to defer designations, the EPA assumed that the monitors with the incomplete data were violating the 2012 standard of 12.0 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The EPA is proceeding under this assumption under the precautionary principle that if it is unclear whether or not there is a violation in this area due to data incompleteness, then for purposes of conducting the contribution analysis the EPA will presume that there may be such a violation. As such, the EPA evaluated all counties of each Core Based Statistical Area (CBSA) around the monitors in question to determine whether the nearby counties (beyond the county with the incomplete monitoring data) are likely to contribute to any potential future violations of the standard in the area with those monitors. Consistent with a five-factor assessment for determining nonattainment area boundaries,³ the EPA evaluated Air Quality Data; Emissions and Emissions-related Data; Meteorology; Geography/Topography; and Jurisdictional Boundaries. One of the EPA's primary boundary considerations was whether there are emissions in those nearby counties that are likely to contribute to the potential violations, and whether the meteorological data support a case that those emissions could impact the affected monitor. Where available evidence indicated that emissions in adjacent counties have the potential to contribute to violations in these areas, the EPA is deferring the designation for those adjacent counties as well as the one with a monitor with data incompleteness at this time.

³ Memorandum dated April 16, 2013, from Gina McCarthy, Assistant Administrator, to Regional Administrators, Regions 1-10, titled "Initial Area Designations for the 2012 Revised Primary Annual Fine Particle National Ambient Air Quality Standard."

Augusta Area (Augusta, GA-SC CBSA)

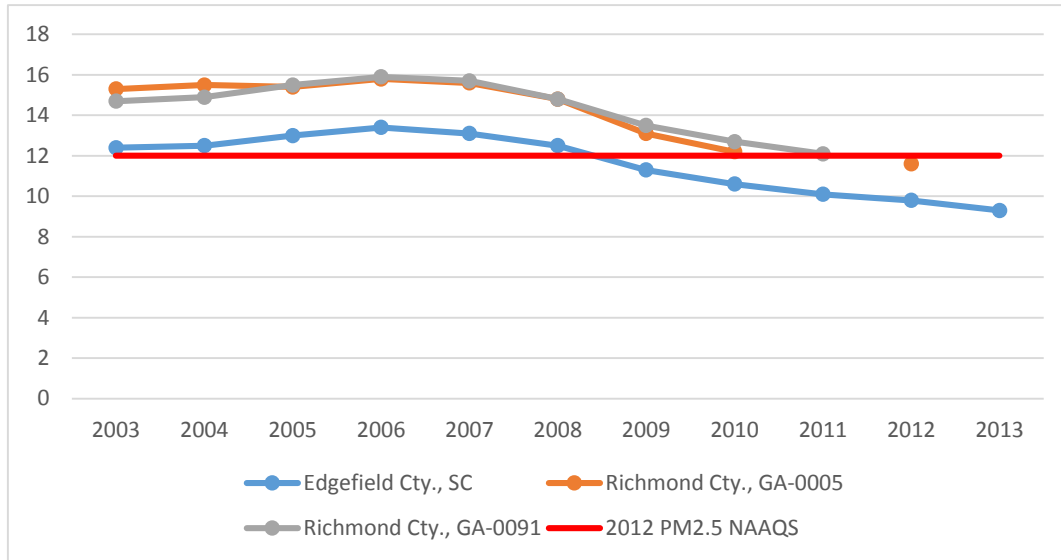
Augusta is located in a bi-state CBSA that includes seven counties – five in Georgia (Burke, Columbia, McDuffie, Lincoln, and Richmond) and two in South Carolina (Aiken and Edgefield). The most populated and industrialized portion of the Augusta area where most of the emissions and emissions activities occur is primarily contained in three of the seven counties – Richmond and the southern region of Columbia County in Georgia, and the western region of Aiken County in South Carolina. The Augusta CBSA and surrounding counties are shown in Figure 2 along with the location of point sources and air quality monitors.

Figure 2. Augusta CBSA with Point Sources and Air Quality Monitor Locations



The Richmond County monitor located in the Georgia portion of the Augusta area has incomplete 2011-2013 data. The monitor in Edgefield County, South Carolina (also part of this CBSA) attains the 2012 annual $PM_{2.5}$ NAAQS with a design value (DV) of $9.3 \mu g/m^3$. Figure 3 illustrates that the air quality trends in the Augusta CBSA are clearly trending downward, however the incomplete data at the Richmond County monitor do not allow a valid 2011-2013 DV to be calculated. Based on incomplete data, the incomplete Richmond County DV is $10.5 \mu g/m^3$.

Figure 3. Augusta CBSA Design Value Trends 2003 - 2013



In particular, the EPA evaluated PM_{2.5} and sulfur dioxide (SO₂) emissions and related data from the counties in the Augusta area. As shown in Table 2, Richmond and Aiken Counties account for 98 percent of SO₂ emissions (45 and 53 percent, respectively) and 67 percent (26 and 41 percent, respectively) of PM_{2.5} emissions. Richmond, Columbia and Aiken Counties, together account for 85 percent of the population and 83 percent of the VMT. In addition to accounting for approximately 15 percent of the CBSA population, the outlying counties of Burke, Lincoln, McDuffie, and Edgefield show low population growth (and negative growth in the case of Lincoln County) relative to the counties for which the EPA is deferring the designation. Columbia County's population, by contrast, increased 40 percent between 2000 and 2010.

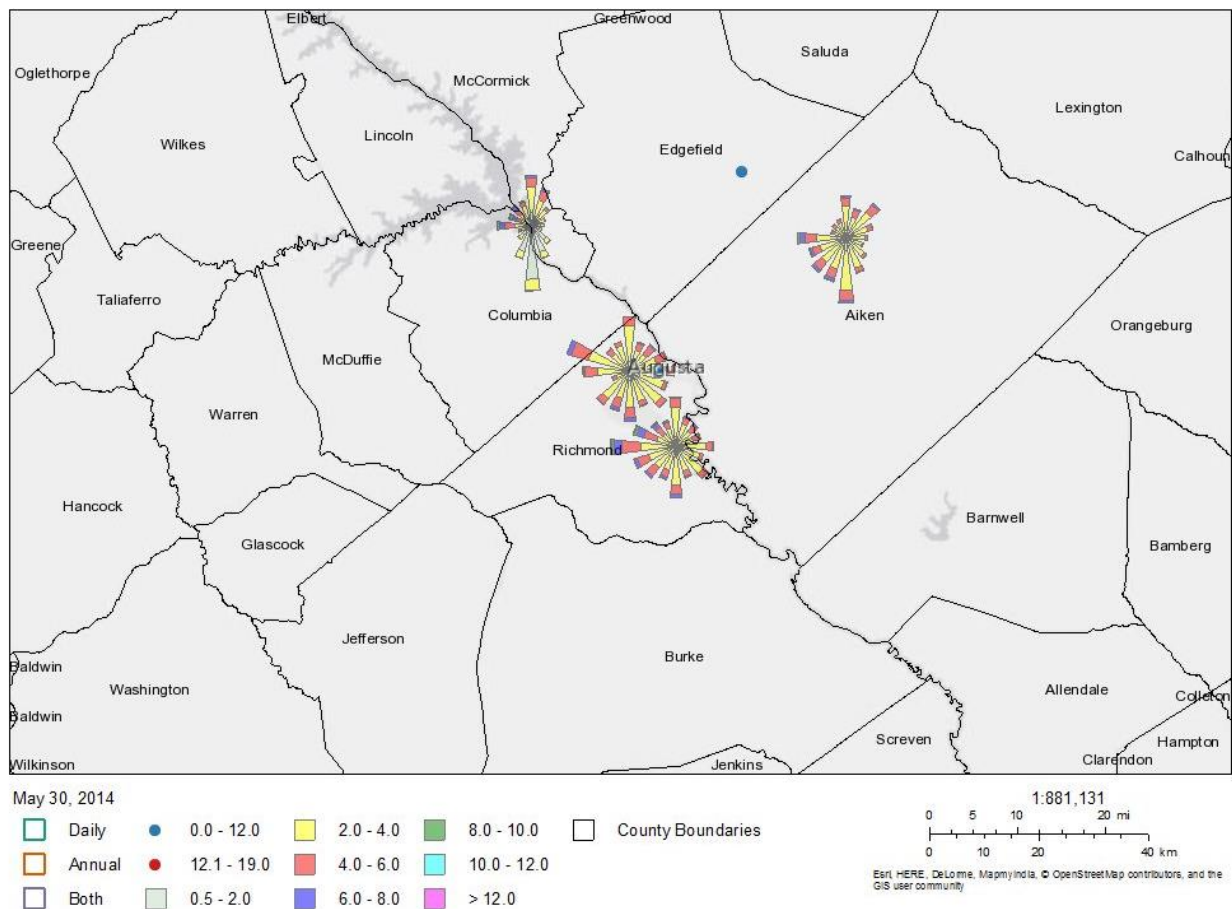
Table 2. Summary statistics for the Augusta, GA-SC CBSA

	Burke	Columbia	Lincoln	McDuffie	Richmond	Aiken	Edgefield
State	Georgia	Georgia	Georgia	Georgia	Georgia	South Carolina	South Carolina
Core urbanized county or outlying?	Outlying	Core	Outlying	Outlying	Core	Core	Outlying
SO₂ Emissions (tpy)	73	28	6.4	100	4,294	5,020	45
PM_{2.5} emissions (tpy)	1,510	447	203	429	2,364	3,660	419
Population	23,350	124,965	7,966	21,852	201,056	160,622	26,970
Population (% of CBSA)	4%	22%	1%	4%	35%	28%	5%
Population growth (2000 – 2010)	5%	40%	-5%	3%	1%	13%	10%

VMT (Millions)	299	1,014	86	333	1,990	1,717	225
VMT (% of CBSA)	5%	18%	2%	6%	35%	30%	4%

The EPA also evaluated the meteorology in the area by evaluating wind data collected at three locations in the Augusta CBSA as shown in Figure 4. As shown, the frequency and intensity of wind from any given direction is variable.

Figure 4. Augusta GA-SC CBSA Wind Rose Data



Augusta GA-SC CBSA Conclusion

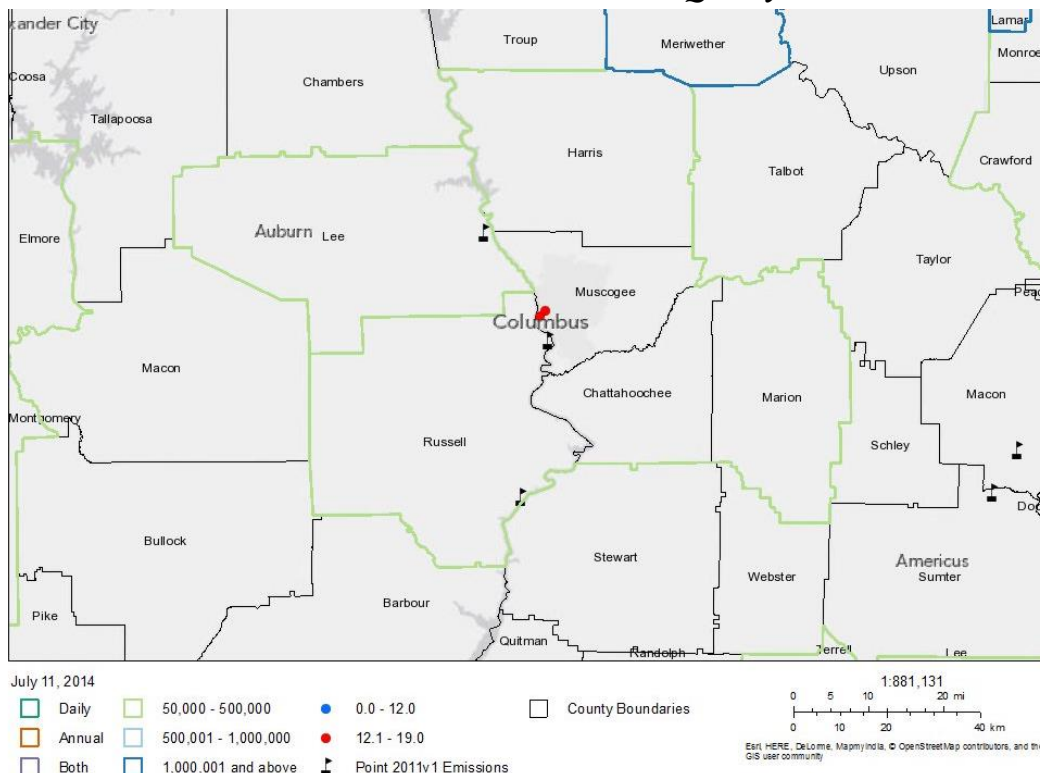
Based on the information summarized in Table 2 and the wind rose data, the EPA intends to conclude that of the five counties in the Augusta CBSA, only Columbia and Richmond Counties in Georgia, and Aiken County, South Carolina, have the potential to contribute to potential future violations of the standard at the Richmond County monitor that currently has incomplete data. The EPA identified Aiken County as a potentially contributing county because it is a highly populated area and contributes almost half of the SO₂ and PM_{2.5} emissions in the CBSA. Two

point sources in Aiken County have combined SO₂ emissions greater than 5,000 tons per year (tpy), and countywide emissions of over 3,600 tpy of direct PM_{2.5} emissions. While wind rose data may suggest a lesser contribution from Aiken County, there remains the potential for transport of these emissions into Richmond County. Although Columbia County has somewhat lower emissions, this county is home to roughly one-third of the population of the CBSA, is experiencing high population growth, and has VMT comparative to Richmond and Aiken Counties. Wind rose data indicate the potential for transport of emissions from Columbia County to the affected monitor in Richmond County. However, because of incomplete data at the Richmond County monitor in the Augusta CBSA, the EPA is deferring a designation for these three counties. Burke County has comparatively higher direct PM_{2.5} emissions, due to non-point sources, than the other outlying counties, but much lower than the emissions from the core counties of Richmond and Aiken. Additionally, the distance from Burke County to the Richmond County monitor is large compared to the emission sources in Richmond, Columbia and Aiken counties. The small population and low VMT of Burke County and the outlying counties of Lincoln, McDuffie, and Edgefield Counties lead the EPA to believe that these counties are not likely to be contributing to nearby violations. Accordingly, the EPA is not deferring a designation for the counties of Burke, Lincoln, McDuffie, or Edgefield Counties and intends to designate them unclassifiable/attainment based on the available data.

Columbus Area (Columbus, GA-AL CBSA)

Columbus is in a bi-state CBSA that includes five counties – four in Georgia (Chattahoochee, Harris, Marion, and Muscogee) and one in Alabama (Russell). The most populated and industrialized portion of the Columbus area is mostly contained in two of the five counties –

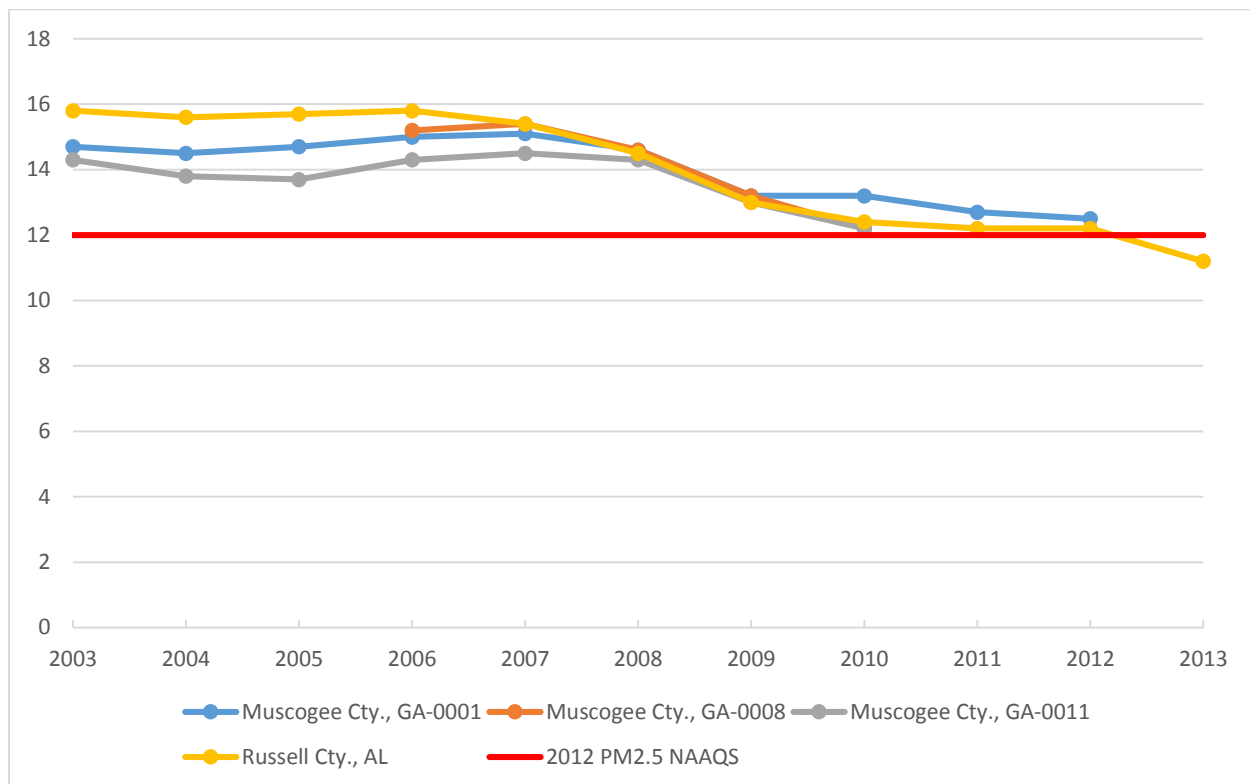
Figure 5. Columbus CBSA with Point Sources and Air Quality Monitor Locations



Muscogee County in Georgia, and Russell County in Alabama. The Columbus CBSA and surrounding counties are shown in Figure 5 along with the location of point sources and air quality monitors.

The Muscogee County monitor located in the Georgia portion of the Columbus area has incomplete 2011-2013 data. The monitor in Russell County, Alabama (also part of this CBSA) attains the 2012 annual $PM_{2.5}$ NAAQS with a DV of 11.2 ug/m^3 . Figure 6 illustrates that the air quality trends in the Columbus CBSA are clearly trending downward, however the incomplete data at the Muscogee County monitor do not allow a valid 2011-2013 DV to be calculated. Based on incomplete data, the incomplete Muscogee County DV is 10.8 ug/m^3 .

Figure 6. Columbus CBSA Design Value Trends 2003-2013



In particular, the EPA evaluated PM_{2.5} and SO₂ emissions and related data from the counties in the Columbus area. As shown in Table 3, Russell County alone accounts for 94 percent of SO₂ emissions and 52 percent of PM_{2.5} emissions. The most populous area is located in the Georgia portion of the CBSA in Muscogee County, which accounts for 64 percent of the population, followed by Russell County, Alabama with 18 percent. A similar pattern in VMT is also noted with Muscogee and Russell Counties together accounting for 82 percent of the VMT (64 percent and 18 percent, respectively). By comparison, the outlying Georgia counties of Chattahoochee, Harris, and Marion account for approximately 35 percent of PM_{2.5} emissions and less than 5 percent of SO₂ emissions and have no major point sources.⁴ Only 18 percent of the CBSA population resides in these outlying counties, which is also reflected in a low proportion of VMT (20 percent). While Harris and Marion Counties have experienced notable population growth between 2000 and 2010 (36 percent and 22 percent, respectively), the population in Chattahoochee County declined by 25 percent over the same period.

⁴ For purposes of this designations analysis, “major” point sources are those whose sum of PM precursor emissions (PM_{2.5} + NO_x + SO₂ + VOC + NH₃) are greater than 500 tpy based on National Emissions Inventory (NEI) 2011v1. NO_x is nitrogen oxides; VOC is volatile organic compounds; and NH₃ is ammonia. The EPA notes that emissions from all source categories are relevant in the context of designations, but the presence or absence of major point sources helps to identify nearby areas with emissions that are likely to be contributing to violations of the NAAQS.

Table 3. Summary statistics for the Columbus, GA-AL CBSA

	Chattahoochee	Harris	Marion	Muscogee	Russell
State	Georgia	Georgia	Georgia	Georgia	Alabama
Core urbanized county or outlying?	Outlying	Outlying	Outlying	Core	Core
SO2 Emissions (tpy)	51	43	29	84	3,487
PM_{2.5} emissions (tpy)	714	809	554	729	3,083
Population	11,131	32,146	8,742	190,484	53,238
Population (% of CBSA)	4%	11%	3%	64%	18%
Population growth (2000 – 2010)	-25%	36%	22%	2%	7%
VMT (Millions)	74	428	78	1,655	738
VMT (% of CBSA)	2%	14%	3%	56%	25%

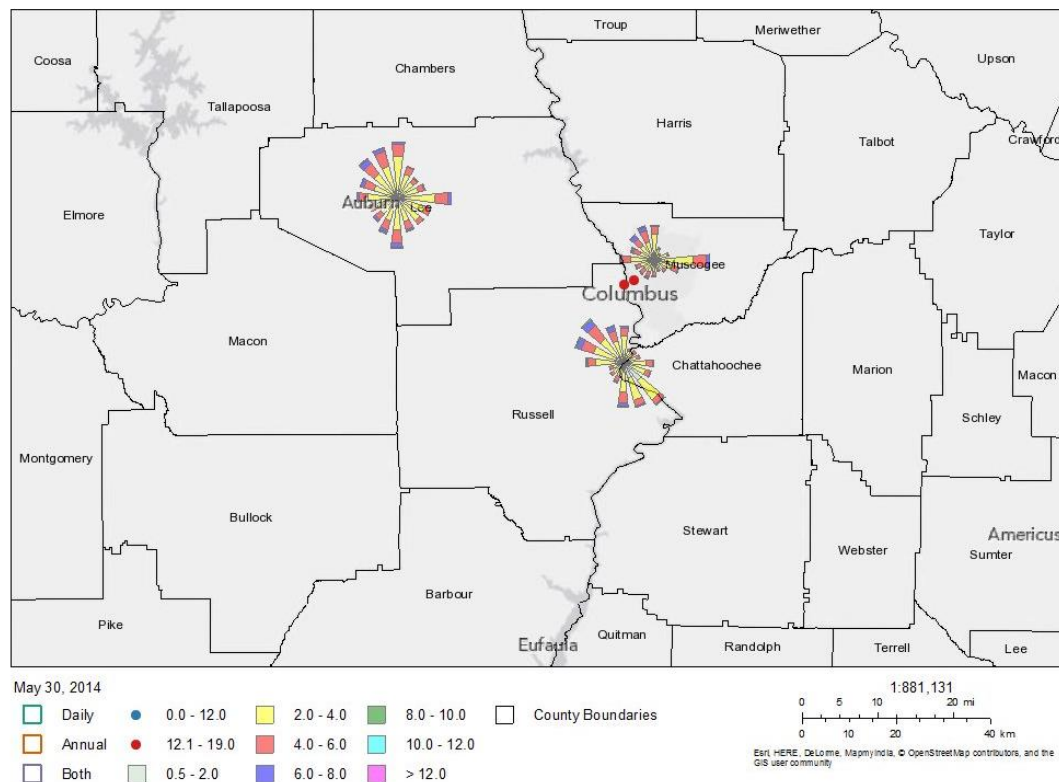
The EPA also evaluated the meteorology in the area by evaluating wind data collected at three locations in the Columbus CBSA as shown in Figure 7. The wind roses indicate that wind direction is less likely to originate from the southwest or from the northeast. North-northwest winds are more frequently observed.

Columbus GA-AL CBSA Conclusion

Based on the wind rose data and the information summarized in Table 3, the EPA intends to conclude that of the five counties in the Columbus CBSA, only Muscogee County, Georgia and Russell County, Alabama have the potential to contribute to potential future violations of the standard at the Muscogee County monitor that currently has incomplete data. The EPA identified Muscogee County because the monitor with incomplete data is located in this county. The EPA identified Russell County as a potentially contributing county because even though it is not the most populated area, it accounts for the majority of emissions in the CBSA. Wind rose data (showing fairly frequent winds from the southerly direction) also indicate the potential for possible transport of emissions from Russell County to Muscogee County. Because of incomplete data at the Muscogee County monitor in the Columbus CBSA, the EPA is deferring a designation for Russell and Muscogee Counties. The outlying Harris County is experiencing population growth and has comparatively higher VMT than the other outlying counties, however, the low emissions in Harris County relative to the two counties the EPA intends to defer and the wind rose data that indicate a lesser contribution from the north-northeast do not support a likely

contribution of emissions from Harris County to the affected monitor in Muscogee County, Georgia. The outlying counties of Chattahoochee and Marion have low emissions, population, and VMT. The wind rose data also indicate infrequent and low intensity winds from a southeasterly direction (i.e., from these counties to the affected monitor in Columbus County). This information leads the EPA to believe that these two counties (as well as Harris County) are likely to be in attainment and are not likely to be contributing to a nearby potential violation at the Muscogee County, Georgia monitor. Accordingly, the EPA is not deferring a designation for the counties of Chattahoochee, Harris, or Marion Counties in Georgia and intends to designate them unclassifiable/attainment based on the available data.

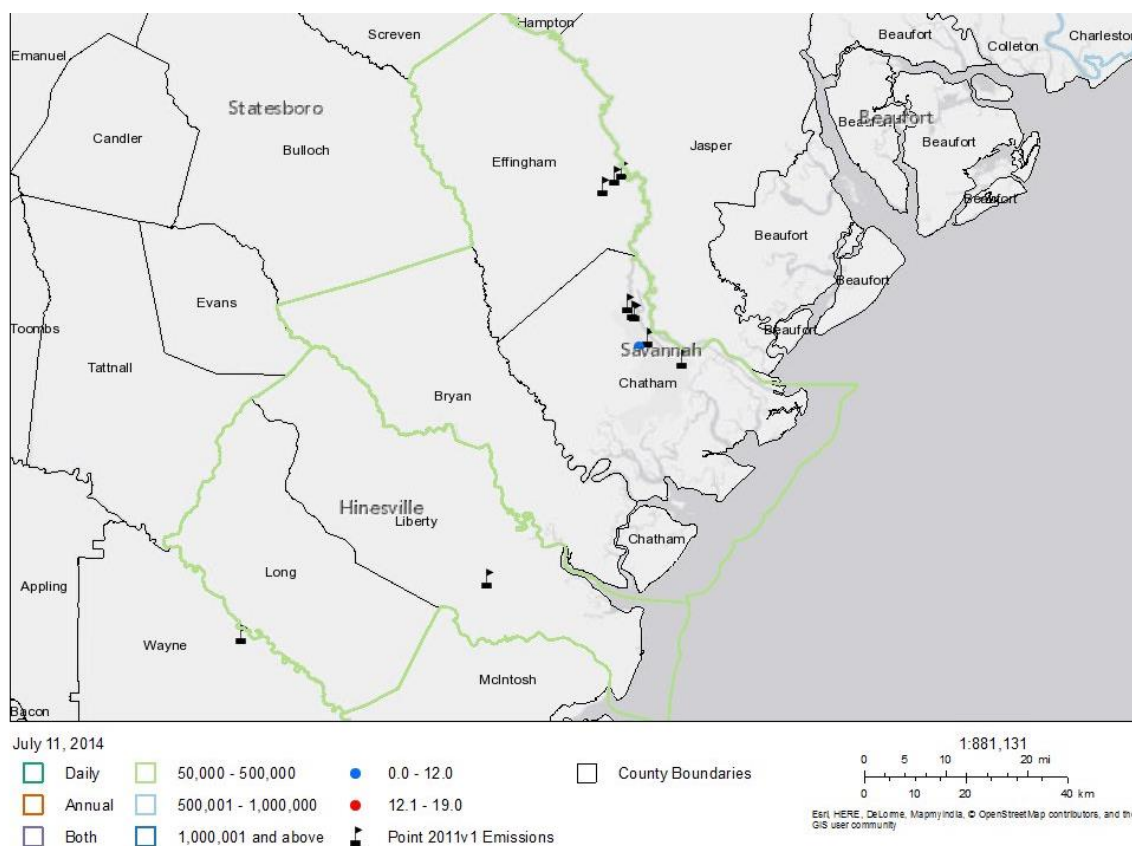
Figure 7. Wind Rose Data for Columbus GA-AL CBSA



Savannah Area (Savannah, Georgia CBSA)

The Savannah, Georgia CBSA is wholly contained in Georgia and includes three counties – Bryan, Chatham, and Effingham. Most of the most populated and industrialized portion of Savannah is contained within Chatham County. The Savannah CBSA and surrounding counties are shown in Figure 8 along with the location of point sources and air quality monitors. The Chatham County monitor has incomplete 2011-2013 data that do not allow calculation of a valid 2011-2013 DV. Based on incomplete data, the incomplete Chatham County DV is 10.2 ug/m^3 .

Figure 8. Savannah, Georgia CBSA with Point Sources and Air Quality Monitor Locations



In particular, the EPA evaluated $\text{PM}_{2.5}$ and SO_2 emissions and related data from the counties in the Savannah CBSA. As shown in Table 4, Chatham and Effingham Counties account for 99 percent of SO_2 emissions (69 and 30 percent, respectively) and 70 percent of $\text{PM}_{2.5}$ emissions (42 percent and 28 percent, respectively). Bryan County has 30 percent of $\text{PM}_{2.5}$ emissions from non-point sources. Chatham County is the most populous area with 76 percent of the CBSA population followed by Effingham (15 percent) and Bryan (9 percent). A similar pattern in VMT is also noted with Chatham County accounting for 73 percent of VMT and Effingham and Bryan Counties contributing 11 percent and 15 percent, respectively to VMT. All three counties are

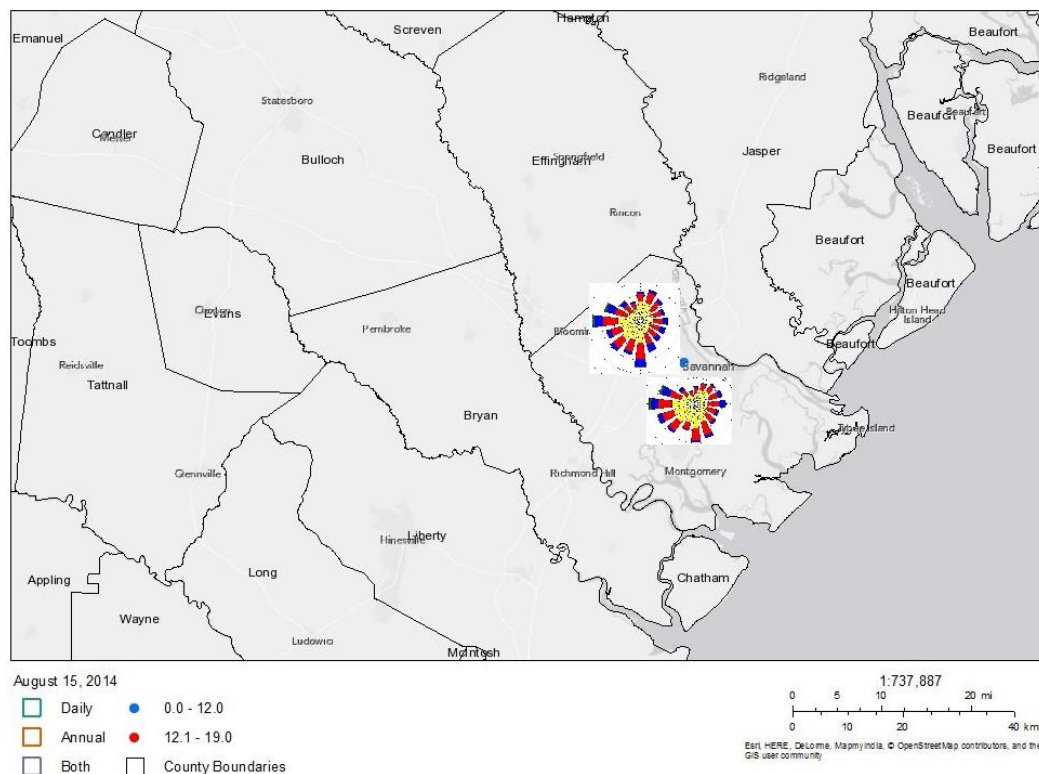
experiencing population growth, especially the outlying counties of Effingham (40 percent) and Bryan (30 percent).

Table 4. Summary statistics for the Savannah, Georgia CBSA

	Chatham	Effingham	Bryan
State	Georgia	Georgia	Georgia
Core urbanized county or outlying?	Core	Outlying	Outlying
SO₂ Emissions (tpy)	10,312	4,567	97
PM_{2.5} emissions (tpy)	2,039	1,332	1,439
Population	265,998	52,420	30,412
Population (% of CBSA)	76%	15%	9%
Population growth (2000 – 2010)	15%	40%	30%
VMT (Millions)	2,804	437	582
VMT (% of CBSA)	73%	11%	15%

The EPA also evaluated the meteorology in the area by evaluating wind data collected at two locations in the Savannah CBSA as shown in Figure 9. The wind rose data shows that the frequency of wind direction and intensity is variable.

Figure 9. Wind Rose Data for the Savannah, Georgia CBSA



Savannah Georgia CBSA Conclusion

Based on the wind rose data that shows consistently variable wind direction and intensity and the information summarized in Table 4, the EPA intends to conclude that two of the three counties in the Savannah CBSA have the potential to contribute to potential future violations of the standard at the Chatham County monitor that currently has incomplete data. The EPA identified Chatham County because the monitor with incomplete data is located in this county and Chatham County contributes the majority of emissions, VMT, and is the population center of the CBSA. The EPA identified Effingham County as a potentially contributing county because Effingham County has three point sources having combined SO_2 emissions greater than 4,500 tpy (30 percent of CBSA SO_2 emissions) and over 1,300 tpy of direct $\text{PM}_{2.5}$ emissions. In addition, the EPA's analysis of meteorology indicates potential transport of these emissions to the $\text{PM}_{2.5}$ monitoring site in Chatham County. The outlying Bryan County has low population and low SO_2 emissions (97 tpy) in comparison to Chatham (10,312 tpy) and Effingham (4,567 tpy) counties. Bryan County does have a similar level of direct $\text{PM}_{2.5}$ emissions to Effingham County, but is located a significant distance from the Chatham County monitor in Savannah and direct $\text{PM}_{2.5}$ emissions generally have more localized impacts. Accordingly, because of incomplete data at the Chatham County monitor in the Savannah CBSA, the EPA is deferring a designation for Chatham, and Effingham Counties. Furthermore, the EPA is not deferring a designation for Bryan County and intends to designate this county as unclassifiable/attainment based on the available data.

Valdosta Area (Valdosta, Georgia CBSA)

The Valdosta, Georgia CBSA is wholly contained in Georgia and includes four counties – Brooks, Echols, Lanier, and Lowndes. The Valdosta CBSA and surrounding counties are shown in Figure 10 along with the location of point sources and air quality monitors. The Lowndes County monitor has incomplete 2011-2013 data that do not allow calculation of a valid 2011-2013 DV. Based on incomplete data, the incomplete Lowndes County DV is 8.9 ug/m³.

In particular, the EPA evaluated PM_{2.5} and SO₂ emissions and related data from the counties in the Valdosta CBSA. As shown in Table 5, Brooks and Lowndes Counties account for 96 percent of SO₂ emissions (20 and 76 percent, respectively) and 86 percent of PM_{2.5} emissions (52 percent and 34 percent, respectively). Lowndes County is the most populous area with 78 percent of the CBSA population followed by Brooks (12 percent), Lanier (7 percent) and Echols (3 percent). A similar pattern in VMT is also noted with Lowndes and Brooks Counties accounting for 93 percent (81 percent and 12 percent, respectively) to CBSA VMT, and Echols and Lanier together contributing 10 percent of VMT. Of the four counties only Lanier and Lowndes are experiencing notable population growth (40 percent and 19 percent, respectively) while the outlying Brooks County has experienced a 2 percent decline in population between 2000 and 2010.

Figure 10. Valdosta CBSA Point Source and Air Quality Monitor Locations

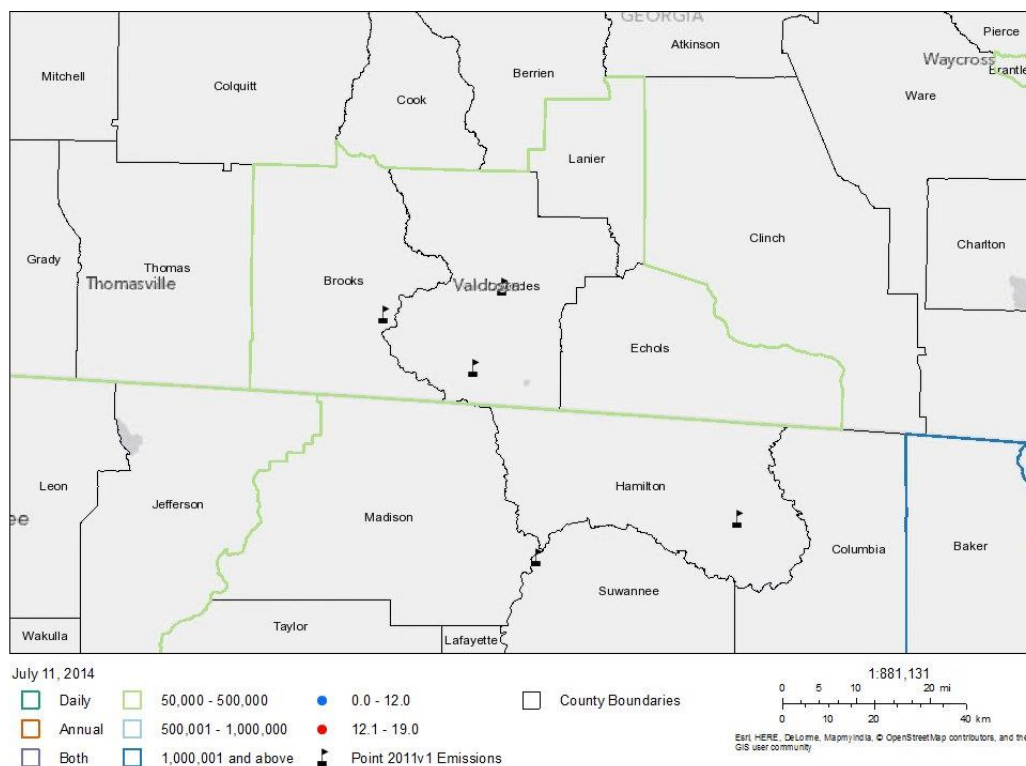
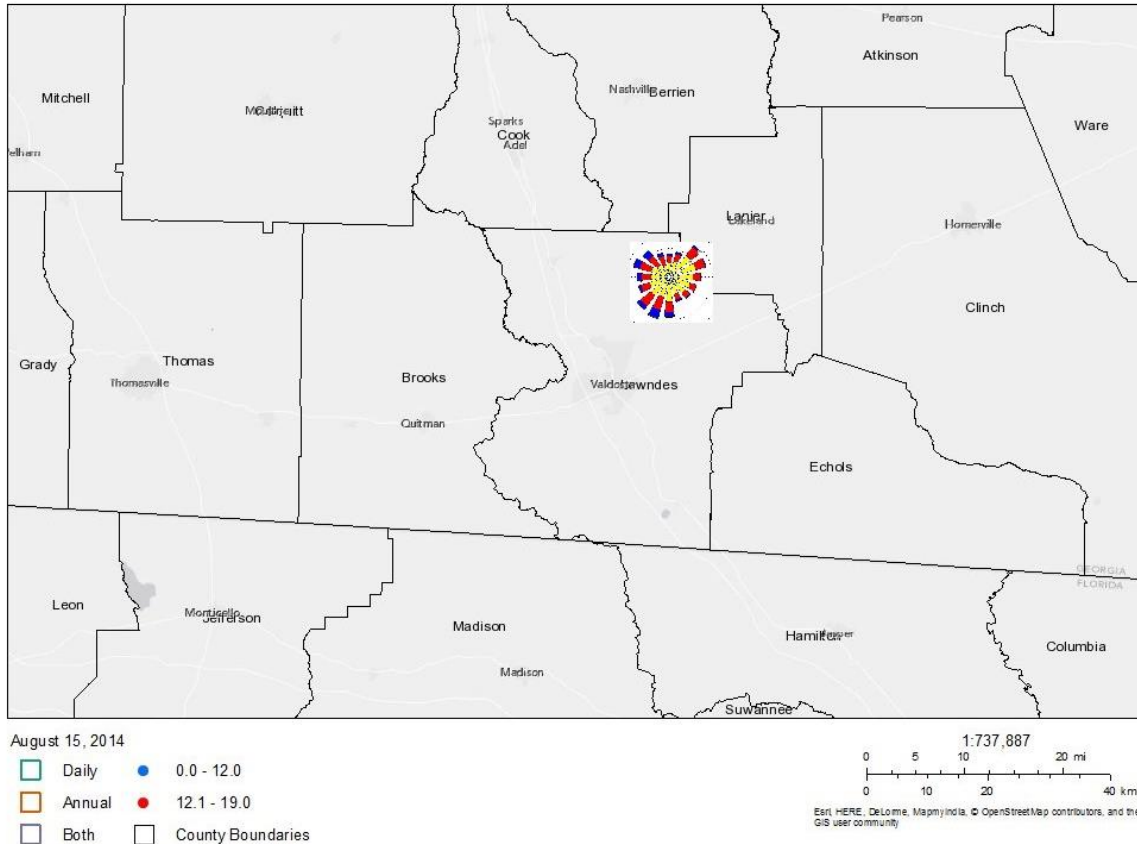


Table 5. Summary statistics for the Valdosta, Georgia CBSA

	Brooks	Echols	Lanier	Lowndes
State	Georgia	Georgia	Georgia	Georgia
Core urbanized county or outlying?	Outlying	Outlying	Outlying	Core
SO2 Emissions (tpy)	209	18	22	784
PM_{2.5} emissions (tpy)	2,959	309	478	1,941
Population	16,189	4,037	10,103	109,761
Population (% of CBSA)	12%	3%	7%	78%
Population growth (2000 – 2010)	-2%	8%	40%	19%
VMT	195	39	80	1,324
VMT (% of CBSA)	12%	2%	5%	81%

The EPA also evaluated the meteorology in the area by evaluating wind data collected in the Valdosta CBSA as shown in Figure 11. These data indicate frequency of wind direction and intensity is variable.

Figure 11. Wind Rose Data for the Valdosta, Georgia CBSA



Valdosta Georgia CBSA Conclusion

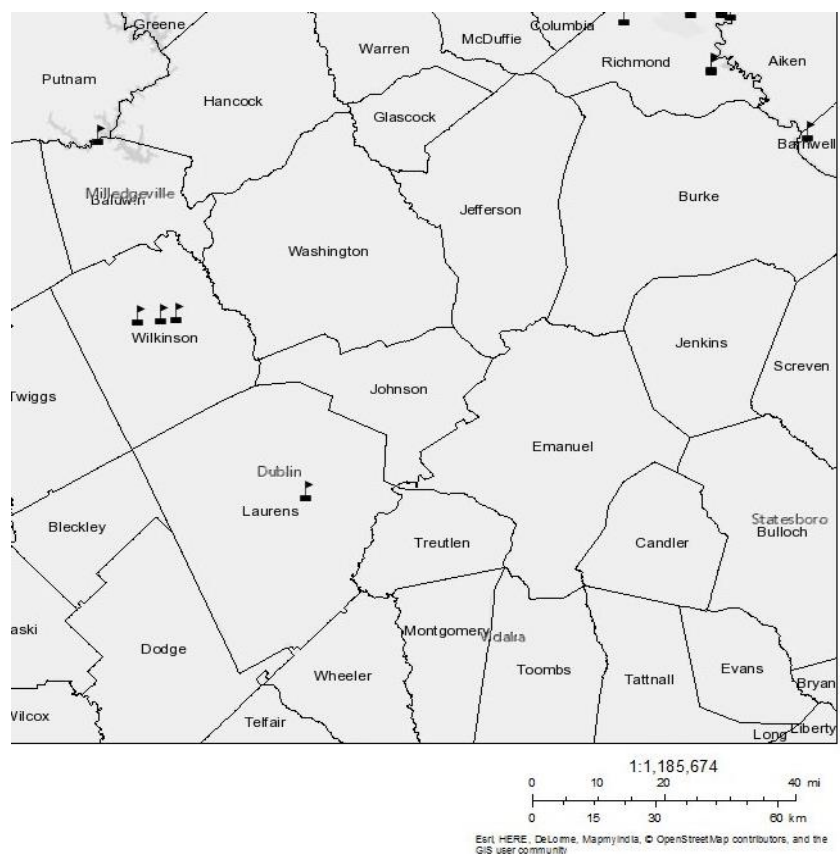
Based on the wind rose data and the information summarized in Table 5, the EPA intends to conclude that of the four counties in the Valdosta CBSA, only Lowndes and Brooks Counties have the potential to contribute to potential future violations of the standard at the Lowndes County monitor that currently has incomplete data. The EPA identified Lowndes County because the monitor with incomplete data is located in this county and Lowndes County contributes the majority of emissions, VMT, and is the population center of the CBSA. The EPA identified Brooks County as a potentially contributing county because it has a countywide total of over 2,900 tpy of direct PM_{2.5} emissions from a major point source and other non-point sources, and the EPA's analysis of meteorology indicates possible transport of these emissions from the west/southwest toward the PM_{2.5} monitoring site in Lowndes County. Consequently, because of incomplete data at the Lowndes County monitor in the Valdosta CBSA, the EPA is deferring a designation for Lowndes and Brooks Counties. Although the outlying Lanier County is experiencing notable population growth (40 percent), it has no major point sources, low emissions and low VMT relative to Lowndes and Brooks Counties. The same is true of Echols County. In addition, the wind rose data suggest a lesser contribution from Echols County to the east of affected monitor in Lowndes County. This information leads the EPA to believe that Echols and Lanier Counties are likely to be in attainment and are not likely contributing to a

nearby potential violation at the Lowndes County monitor. Accordingly, the EPA is not deferring a designation for either Echols or Lanier Counties and intends to designate them unclassifiable/attainment based on the available data.

Washington County, GA

Washington County is a single county that is not a part of a CBSA. Washington County and surrounding counties are shown in Figure 12 along with the location of point sources. Due to a snow storm in 2011, the Washington County monitor has incomplete 2011-2013 data that do not allow calculation of a valid 2011-2013 DV.⁵ Based on incomplete data, the incomplete Washington County DV is 8.9 ug/m³. The adjacent Wilkerson County has an attaining, valid design value for 2011-2013 of 11.2 ug/m³.

Figure 12. Washington County, Georgia



Summary statistics for Washington County are summarized in Table 6. As shown in Figure 12, and reflected in the emissions data in Table 6, Washington County has relatively low SO₂ and

⁵ Memorandum from Liz P. Naess, Group Leader, Air Quality Analysis Group, US EPA Office of Air Quality Planning and Standards, to EPA Docket EPA-HQ-OAR-2012-0918, Air Quality Designations for the 2012 PM_{2.5} Standards, titled "Data Quality Issues in Georgia Affecting Air Quality Designations for the 2012 PM_{2.5} National Ambient Air Quality Standard."

PM_{2.5} emissions and does not have any major point sources. However, Wilkinson County (an adjacent county) does have three major point sources. To assess contribution from Wilkinson County, the EPA evaluated the meteorology in the area by evaluating wind data collected at three locations in the region as shown in Figure 13. The wind rose data suggest a predominant wind directions out of the west and east.

Table 6. Summary statistics for the Washington County, Georgia CBSA

	Washington
State	Georgia
Core urbanized county or outlying?	Core
SO₂ Emissions (tpy)	104
PM_{2.5} emissions (tpy)	1,444
Population	21,108
Population (% of CBSA)	NA
Population growth (2000 – 2010)	-0.3%
VMT (Millions)	232
VMT (% of CBSA)	NA

Washington County, Georgia Conclusion

Based on the wind rose data and the information summarized in Table 6, the EPA intends to defer a designation for Washington County because the monitor with incomplete data is located in this county. The wind rose data suggests a lesser contribution to the PM_{2.5} monitoring site in Washington County from the direction of Wilkinson County (southwest), which is the only nearby county with any major point sources. This information leads the EPA to believe that the adjacent and nearby counties are likely to be in attainment and are not likely contributing to a nearby potential violation at the Washington County monitor. Accordingly, the EPA is deferring a designation for Washington County, Georgia.

Figure 13. Washington County Regional Wind Rose Data

